

Agency: Commerce, Community and Economic Development**Grants to Unincorporated Communities (AS 37.05.317)****Grant Recipient: Metlakatla****Project Title:**

Metlakatla - Emergency Battery Energy Storage System Replacement

State Funding Requested: \$ 681,890**House District: 5 - C**

One-Time Need

Brief Project Description:

Replace battery energy storage system by purchasing, removing, installing new batteries and disposing of the old batteries.

Funding Plan:**Total Cost of Project: \$681,890**Funding Secured

Amount FY

Other Pending Requests

Amount FY

Anticipated Future Need

Amount FY

There is no other funding needed

Detailed Project Description and Justification:

This is an emergency request. Recently the Emergency Battery Energy Storage System (BESS) was down and repair parts were on order in which deisel was used while waiting for the parts. Should the needed parts have taken longer than a month to receive, we would have run out of deisel fuel. Our current BESS has been in operation for twelve years and is past due for replacement. In order to prevent having to deal with another future break down we will need to replace as soon as possible as we cannot afford to purchase the required fuel to continue to operate our deisel generators. Right now the unemployment rate is 80% plus at the present time, making it difficult for the Power & Light Company to operate at a break even rate which further makes it difficult to fund this much needed project.

The storage batteries by the time they are replaced this summer will have been operational for 12-years and kept relatively at 80-85% state of charge to enable the battery to accept energy back off the Metlakatla Power & Light grid during voltage spikes. Over the past 12 years the system has probably handled over one million voltage swings and several power outages. The island's 3.3. MW diesel generator was relegated to reserve duty. Millions of dollars in fuel oil would have been consumed assuming we did not have a BESS. BESS has performed the functions for which it was designed and has proven itself as an economic benefit to MP&L and its customers and to the community of Melakatla.

The storage battery consists of a single string of 378 Absolyte VRLA modules of a model type 100A75 configured as one series string. A single module consists of three 2-volt cells of a type 100A25 connected in parallel. The total number of 2-volt cells is 1,134. A single module has an unpackaged weight of 608 lbs. Therefore the entire battery has a standing weight of 229,824 lbs + the intercell connector's at 15 lbs per module. The shipping would be approximately 245,000 pounds and will require a total of 8 twenty foot sea vans. It is our plan to use the same shipping containers and packaging

materials from the new battery to return the spent battery cells.

Project Timeline:

June is the target date. The project will take approximately three weeks to complete.

Entity Responsible for the Ongoing Operation and Maintenance of this Project:

Metlakatla Indian Community

Grant Recipient Contact Information:

Contact Name: Paul Bryant

Phone Number: 907-886-4451

Address: P.O. Box 8, Metlakatla, AK 99926

Email: not available

Has this project been through a public review process at the local level and is it a community priority? ☒ Yes ☐ No



January 18, 2008

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www.exide.com

**Metlakatla Power & Light
Annette Islands Reserve
Business Office
3.5 Mile Airport Road
Metlakatla, Alaska 99926**

**Attention: Mr. Paul Bryant
General Manager**

**Subject: Battery Energy Storage System
Stationary Battery Replacement
Proposal No. 20080010**

Dear Mr. Bryant:

The GNB ABSOLYTE Valve Regulated Lead Acid (VRLA) battery cells currently in service at the MP&L's BESS facility were manufactured by GNB in the early part of 1996. The BESS power electronics and switch yard were energized and commissioning tests commenced the week of Dec 16th 1996. In January 1997, the system was fully operational and providing rapid spinning reserve, frequency control and better power quality for the island community of Metlakatla.

The storage batteries by the time they are replaced this summer will have been operational for approximately 12-years and kept relatively at 80-85% state of charge to enable the battery to accept energy back off the MP&L utility grid during voltage spikes. Over the past 12 years the system has probably handled over one million voltage swings and several power outages. What's more striking is the island's 3.3 MW diesel generator was relegated to reserve duty. I can't image how many gallons per year in fuel oil would have been consumed and the amount of money MP&L would have spent to buy that fuel assuming no BESS. "Millions of dollars I'm sure". I would certainly say that the BESS has performed the functions for which it was designed and has proven itself as an economic benefit to MP&L and its customers, to the community of Metlakatla, and to the Tsimshian Tribal Council that had the courage and insight to invest in a new state of the art battery energy storage technology back in 1995.

Battery Replacement

The storage battery consists of a single string of 378 Absolyte VRLA modules of a model type 100A75 configured as one series string. A single module consists of three 2-volt cells of a type 100A25 connected in parallel. The total number of 2-volt cells is 1,134.

A single module has an unpackaged weight of 608 lbs. Therefore the entire battery has a standing weight of 229,824 lbs + the intercell connector's at 15 lbs per module, other hardware and insulator covers also add to the overall weight. The shipping will be approximately 245,000 pounds and will require a total of 8 twenty foot sea vans. It is our plan to use the same shipping containers and packaging materials from the new battery to return the spent battery cells.



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That scrape material will be sent to a recycling center in Montreal Canada. GNB will cover all the costs associated with transporting the cells back to the smelter. That includes the barging of the vans back to Vancouver, transporting them over to Edmonton and then on to Montréal.

As for the labor to do the battery replacement, GNB will provide two battery technicians one of whom will be Dan Weinstock. Dan was the GNB supervisor in charge of the original battery installation back in 1996 and has full knowledge of the MP&L BESS facility layout.

As we have discussed by telephone, MP&L will provide 4 of its associates for assisting with the work. It is expected they can handle the movement of the vans up to the BESS facility, offloading material, unpackaged the new batteries, staging new modules for installation, movement and packaging of scrape battery cells, loading the vans for return shipment, and assisting with the assembly of the new battery system. MP&L should also consider repainting the cement floor when the batteries are removed.

It is estimated that the work will require 24 work days to complete the process of removal, install and the final assembly of all eclectically connections. We are planning on an eight hour work day and five days per week, however, that can change to 10 hour days and six work days per week. In any case, GNB is looking at 384 man hours which is aggressive considering that works out to be an average of about 20 minutes per module to disconnect and remove each module and then 40 minutes per module to inspect, test, install, grease terminal posts, install connectors and torque all connections and put the insulator covers on the battery stacks.

PRICING:

GNB is extending Government Pricing off its ABSOLYTE GSA Federal Supply Schedule No : GS-O7F-9432S. Contract Period March 29, 2006 through March 28, 2011. Modification AO 03, 12/10/2007

	<u>Qty</u>	<u>List Price</u>	<u>Net GSA Price</u>	<u>Extension</u>
Battery Modules, 100A75	378	\$ 4,660	\$1,627.75	\$ 615,289.50
Connectors, Hardware, Insulator Covers				
Terminal Plate Kits	4		\$ 245.00	\$ 980.00

To minimize replacement cost, GNB plans to reuse the existing insulated pedestals for mounting the new battery stacks. These pedestals were custom designed for the MP&L BESS application and were expensive to buy and time consuming to install. There should be no reason we can not reuse them.



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Transportation Costs

1. Freight to West Coast from Fort Smith, AR	No charge / GSA	
2. Sea transport to Metlakatla 8 Containers	\$ 2,300.00	\$ 18,400.00

GNB Labor 384 Hours at \$100.00 / hour \$ 38,400.00

Travel, Rentals, Lodging & Meals

1. Airfare to and from Ketchikan	2	\$1,200.00	\$ 2,400.00
2. Local Airfare to and from Metlakatla	2	75.00	150.00
3. Rental Van for three weeks	1	450.00 /wk	1,350.00
4. Gas for rental	2 fill ups	60.00	120.00
5. Lodging at Metlakatla Inn	2 (three weeks)	450.00/wk each	2,700.00
6. Meals	2 (three weeks)	50.00/day each	2,100.00

Note that the Government per diem rate for Ketchikan is \$220 per day meals and lodging.

Timing

According to our conversation, it is best to plan on doing the battery replacement in the month of June 2008. Therefore, the plant would start manufacturing the batteries in the month of April and have the batteries in transit the week of 19 May. Best if we target having a Purchase Order agreement in place by the end of March 2008.

There is also the issue of payment. Since the batteries will take two-three weeks to deliver and the replacement project three additional weeks, we can over ride the GSA terms and conditions (Net 30 days payment from shipment) and offer 60-day terms. This will allow for transit time, installation and startup prior to final payment. However, GNB needs assurances of prompt payment after the completion of the work and a portion of the battery cost upfront prior to the shipment. A reasonable portion is 50% of the battery cost ($\$616,269.50 / 2 = \$308,134.75$) and the balance of the overall Project cost at time of completion estimated to be no later that June 27, 2008.

The Total Battery Replacement Project Cost for material, labor, freight, travel and living is \$ 681,889.50 and that will include an eight year pro-rata warranty on the new battery string.

You should know that GNB introduced in 2000 a new patented terminal post seal construction on the ABSOLYTE product line that basically eliminates any post seal leakage on 2-volt cells. That was an issue that bugged bus on the original installation but that should not be an issue with the new battery system.

I look forward to discussing this Proposal with you and if necessary meet with you to discuss the information more in detail. Let me know how we should proceed.

Sincerely
George Hunt
630-862-2258

C. Paul Bryant

From: "HUNT, George (Aurora)" <George.Hunt@exide.com>
To: "C. Paul Bryant" <cpaul@metlakatla.net>
Cc: "STAAB, Daniel (Plano)" <Daniel.Staab@exide.com>
Sent: Wednesday, January 23, 2008 1:16 PM
Subject: RE: BESS Battery Replacement Proposal

I did not address the cost for fuel since I don't know exactly the usage per day (best estimate) and the cost per gallon. If we assume a minimum of 500 kVA base generator loading, we probably will consume about 50 gallons per hour. That's like 1200 gal per day for x number of days (24/7). If we assume 21 days and a cost of 3.45/gallon, that works out to be 25,000 gallons at a cost of \$86,250.00

Floyd may have a better handle on this question. I did not cover the cost of fuel in my proposal. The faster we get the job done, the lower that cost will be.

George hunt

From: C. Paul Bryant [mailto:cpaul@metlakatla.net]
Sent: Wednesday, January 23, 2008 2:53 PM
To: HUNT, George (Aurora)
Subject: Re: BESS Battery Replacement Proposal

George,

Thank you, I did receive the proposal last week. I was in Los Angeles for the weekend and glanced at it briefly. Is there a provision for fuel costs (running the diesel generator while the B.E.S.S. is down) in the proposal? I apologize if I missed it.

I am planning to go over it in detail with Floyd and Carl this week and the Board next week (1/31).

Thanks again,

Paul Bryant
 MP&L

----- Original Message -----

From: HUNT, George (Aurora)
To: Bryant, Paul
Sent: Wednesday, January 23, 2008 8:28 AM
Subject: RE: BESS Battery Replacement Proposal

Paul:

Please confirm that you received the Proposal via email. If you like, I can mail you the original copy with my signature.

Thanks, George Hunt

From: HUNT, George (Aurora)
Sent: Friday, January 18, 2008 2:46 PM
To: 'Bryant, Paul'
Subject: BESS Battery Replacement Proposal

Paul:

Here is the GNB Proposal for the replacement of the BESS battery at MP&L. See attachment for details.

We are on a Federal Holiday on Monday. Call me Tuesday or send me your comments or questions by email.

I look forward to discussing the Proposal with you. Have a great weekend.

George Hunt
Office: 630-862-2258
Cell: 630-842-8100

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Battery storage all but eliminates diesel generator

Battery storage has some surprising benefits for island utilities—and it's not just peak shaving. A recently installed battery energy-storage system on the remote island of Metlakatla, Alaska (Fig 1), provides rapid spinning reserve, frequency control, and better power quality. What's more, the island's main diesel generator—which once consumed more than 475,000 gal/yr of fuel oil—is now relegated to reserve duty. Hydro units now supply almost all of Metlakatla's power.

Metlakatla is an island community on the Annette Island Reserve at the southern tip of Alaska (Fig 1). The only federal reservation for indigenous people in the state, Metlakatla is governed by the Tsimshian Tribal Council. The inhabitants engage in a dual economy—subsistence hunting and fishing, plus commercial lumbering and export businesses (Fig 2). Louisiana Pacific, the largest employer on the island, leases and operates the Annette Hemlock Mill.

Metlakatla Power & Light (MP&L) is a stand-alone electric utility that, until recently, provided adequate power for the island with 4.9 MW of rain-fed hydroelec-

tric generation, located at Purple Lake and Chester Lake. However, as times have changed, so have load demands and MP&L's ability to respond to them.

Before 1986, the Annette Hemlock Mill, the largest electricity customer on the island, used about one-third of MP&L's total generation capacity. Although fluctuation of the mill's load burdened the utility, MP&L could successfully address it and supply power to other commercial establishments and residents. But when the mill bought a chipper in 1986, MP&L's hydro-powered system struggled to address load swings estimated at about 500 kW. Despite adequate generation capacity to cover the increased load, hydro response time of 10 seconds was too slow to follow load swings, which occurred in about $\frac{1}{10}$ th of a second. Insufficient generation output caused brownouts and blackouts, and excess hydrogeneration caused overvoltage. System failures frustrated residents, businesses, and MP&L's management.

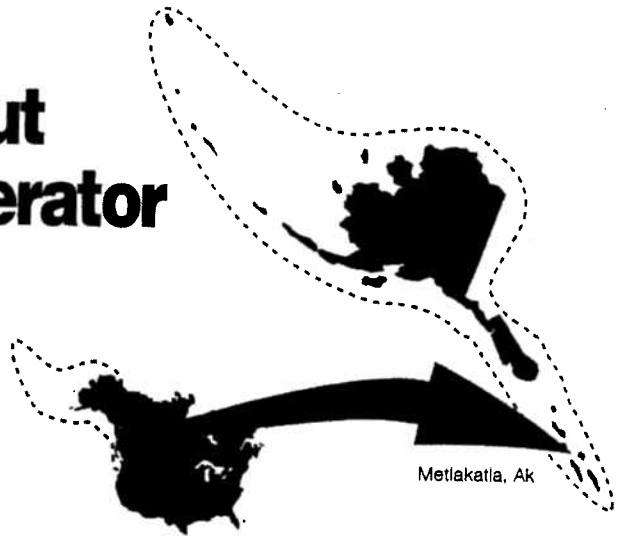
Diesel couldn't solve problem

In an attempt to solve the problem, the utility's board—an ancillary to the Tribal

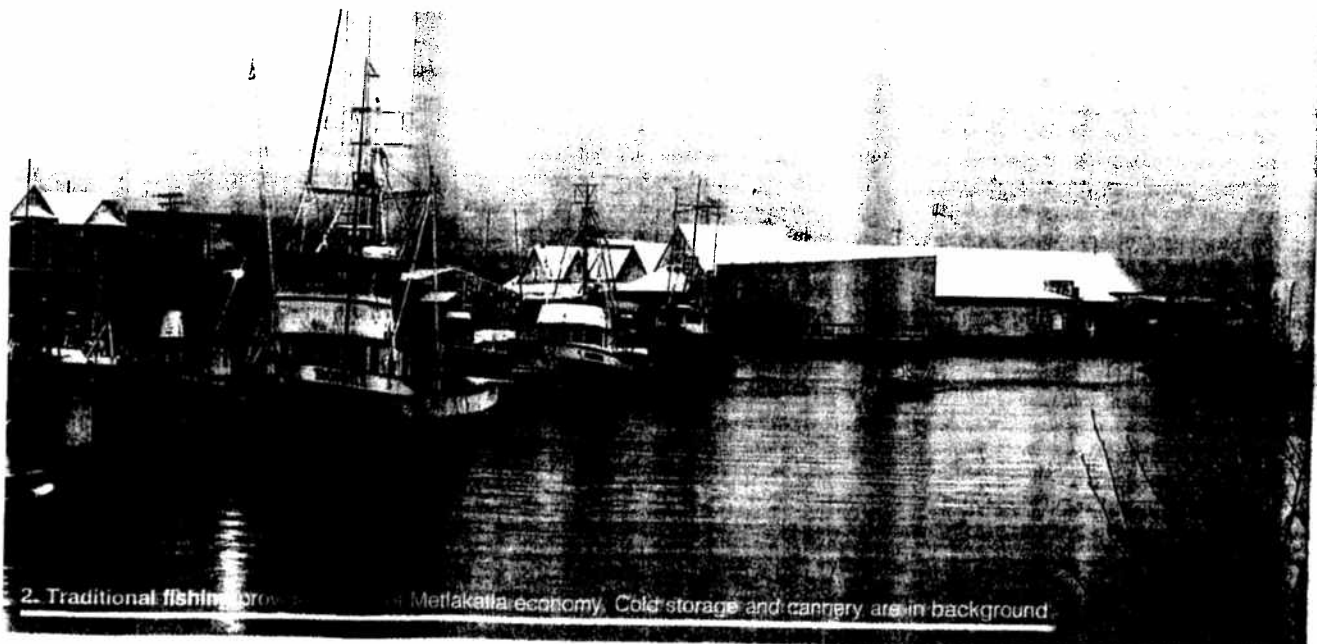
1. Metlakatla is an island community on the Annette Island Reserve at the southern tip of Alaska

Council—approved the purchase of a 3.3-MW diesel system at a cost of \$2-million. The diesel was installed and began operation in 1987.

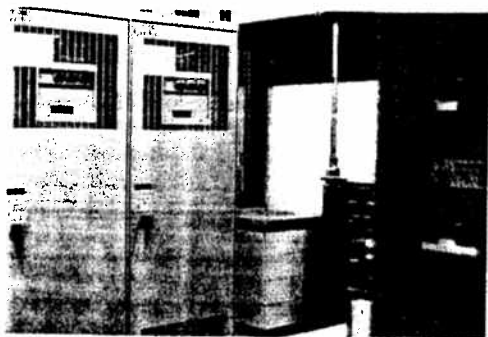
With the addition of the 3.3-MW diesel, MP&L's generating capacity was just over 8 MW—twice the average base load. But the characteristics of the load and of diesel and hydro generation still defied MP&L's attempts to solve its problems. The island had plenty of capacity, and the diesel was better suited to respond to load swings than the hydro generation. However, like all diesels, this unit had to run near full capacity to be efficient. So MP&L ran the diesel at 80% capacity (about 2.6 MW) and complemented the diesel base-load generation with about 1.5 MW of hydropower. About 20% of the diesel capacity (about 700 kW) was held in reserve to respond to load swings and



By Michele Demarest and Paula Taylor, Energetics Inc, Columbia, Md, H A Dutch Achenbach, Metlakatla (Alaska) Power & Light, and Abbas Akhil, Sandia National Laboratories, Albuquerque, NM.

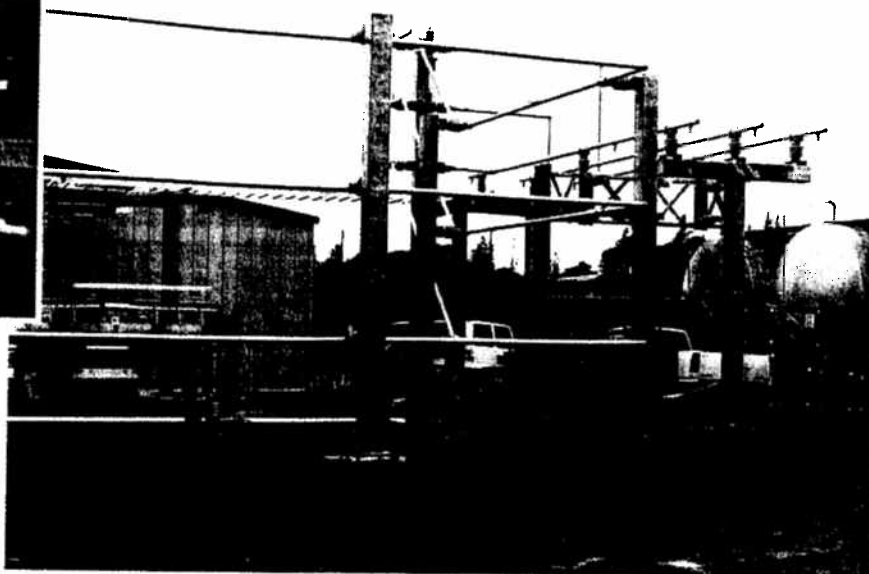


2. Traditional fishing provides the backbone of the Metlakatla economy. Cold storage and cannery are in background.



3. Battery storage system (right) consisting of power-conditioning system, an automatic generation control system, and batteries is housed in the butler-building-style shelter at rear. Diesel fuel tanks can be seen at right

4. Power-conditioning system (above), inverters, and controls for battery system also improve automatic generation control



short-term fluctuations in base load.

With this operating regime, MP&L could address load swings up to about 600 kW. But maximum load swings were as high as 900 kW. Base load plus load swings often loaded the diesel to 126% of its capacity. The hydro, still too slow to follow the load fluctuations, could not help. In some instances, generator speed and electrical frequency dropped from 60 Hz to below 57 Hz in less than 1 second. System voltage was extremely erratic. Simultaneously, spinning reserve dropped to just 0.8 kW.

Summertime was the worst. Seasonal increases in electricity demand and simultaneous decreases in hydro-generation capacity further stressed the MP&L system. Metlakatla's population grows by 40% between March and September each year and electricity demand increases 22% in the same period. At the same time, reservoir levels are lower, and hydro units are less able to cover the base load. The diesel, helping to meet the seasonal peak, cannot buffer summertime load swings. Consequently, insufficient spinning reserve, erratic electrical frequency, and poor power quality were more exacting issues for MP&L in the summer.

Operation and maintenance costs for the diesel compounded the problem. Fuel cost was \$360,000-\$400,000/yr. Transporting 475,000 gal/yr of fuel by ferry from the mainland and then through pipe across the island increased both the environmental risk to the community and the financial burden. Each fuel shipment required an average capital outlay of \$100,000—a significant cash-flow problem for a small utility. To top that off, minor overhauls to the diesel cost \$150,000 every three years, and major overhauls cost \$250,000 every six years.

Capital improvements limited

Like many rural cooperatives, MP&L

had limited economic resources to solve its operations issues. Moreover, the utility had exhausted state funding assistance in 1987 when it purchased a 1-MW hydro unit with a \$500,000 grant through the Alaskan Dept of Community and Regional Affairs' Rural Utility Service (then the Rural Electric Administration). As a result, state programs—such as the Power Cost Equalization program, which subsidizes rural utility rates—were unavailable to the community.

Aavo Taaler, MP&L's general manager at the time, sought help from the US Dept of Energy's Energy Storage Systems (EES) program at Sandia National Laboratories, Albuquerque, NM. Abbas Akhil, a senior engineer in the ESS program, remembers: "When Taaler called, I knew that his problem could be solved by battery storage." Akhil provided a list of battery suppliers for MP&L to contact, with whom the ESS program had ongoing projects.

Taaler approached GNB Industrial Battery, Lombard, Ill, and that company in turn contacted GE Power Systems Div, Schenectady, NY, hoping to team up on a storage project for Metlakatla. Both companies flew representatives to Alaska in December 1992. MP&L requested that the ESS program send Akhil as an impartial intermediary.

To fully assess the situation at MP&L, GE and GNB conducted a techno/economic feasibility study that compared battery energy storage to other options using only the existing hydro and diesel units. The study confirmed that a 1-MW/1.4-MWh battery energy storage system (BESS) could provide the spinning reserve, frequency control, and power-quality improvement that Metlakatla needed. The \$1.6-million system that the study identified had a benefit/cost ratio of 1:1.5 and would pay for itself within three years.

GE and GNB conducted a study of the harmonics on the hydro units in order to

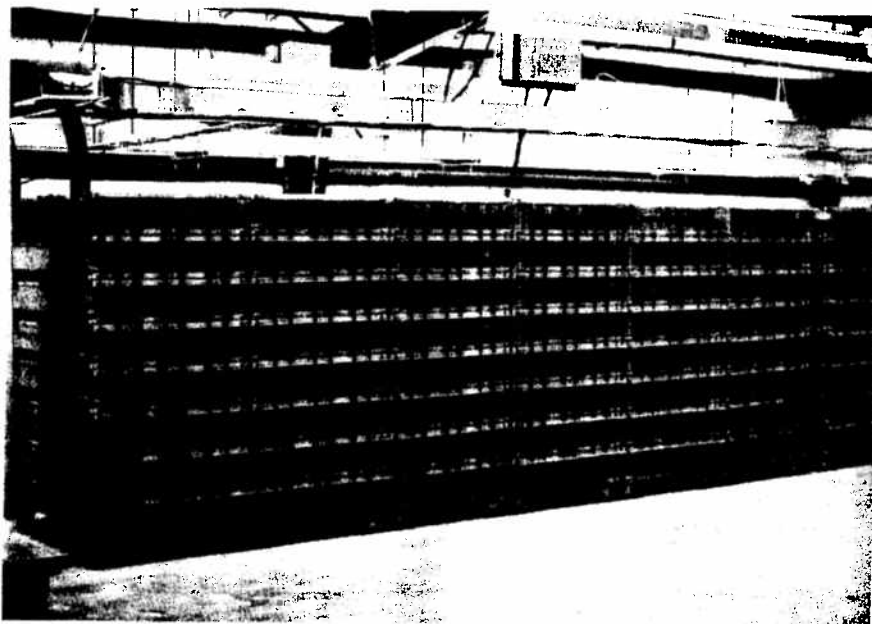
develop specifications for an automatic generation control (AGC) system that would regulate the units' operation. The results provided guidelines for new hydro controls that would allow the hydro units to cover base load and maintain battery charge in the BESS. The resulting AGC scheme enables optimum dispatch of MP&L's hydro, diesel, and planned BESS facilities. The study also showed MP&L how its existing hydro and diesel facilities could be operated more efficiently.

Custom-designed storage

GE and GNB designed a BESS for MP&L that capitalized on experience gained in building a similar system in Vernon, Calif, in 1995. The BESS matched MP&L's generation needs so well that it completely replaced the diesel generator, which is now available for extra power and battery charging. The BESS is capable of completely automatic, unattended operation, including charge, discharge, standby, ready, synchronization, disconnect, and black-start. The BESS consists of a power-conditioning system (PCS), an AGC, batteries, racking and cables, and the butler-building-style shelter that houses the other components of the system. The BESS connects to the MP&L system at the 12.47-kV diesel substation (Fig 3).

The PCS, based on gate-turn-off thyristors and supplied by GE (Fig 4) allows bi-directional power flow between the ac system and the battery in less than a quarter-cycle. The BESS can support a continuous load of 800 kVA and handle pulse loads up to 1200 kVA—enough to support the 15-min demand of the chipper at the mill. A 900-kVA filter bank removes the harmonics and compensates the voltage of the electrical signal. The AGC insures optimum integration of BESS response and hydro operation.

The PCS provides both active and reac-



5. Operator Leonard Dundas (above) adjusts the automatic generation controls for battery bank and hydro units

6. Battery bank (left) consists of 378 valve-regulated, 2-V, lead/acid cells

tive power to counter load swings that the chipper creates. The BESS sources watts/VARS when the system load jumps higher than average, and sinks watts/VARS when the load falls below average. Because the BESS's resultant net output is nearly zero, the batteries require little additional charging; the AGC dispatches the hydro and diesel to provide the minimal charging required (Fig 5).

How batteries are installed

The storage battery consists of a string of 378 GNB Absolyte IIP, series-connected, valve-regulated lead/acid (VRLA), 2-V cells (Fig 6). The battery bank has a nominal rating of 756 V dc, and is kept at 80% state-of-charge to enable it to accept energy during voltage spikes.

Unlike flooded lead/acid batteries used in earlier energy-storage systems, VRLA cells have no excess electrolyte. Fiberglass mats hold the small amount of electrolyte between the positive and negative electrode plates. In addition, VRLA battery cases are sealed, and only allow gas to escape from the cell when internal pressure exceeds the setpoint of a built-in regulation valve. Therefore, VRLA cells can be placed on their sides (horizontally), and take up less space. VRLA cells require neither watering nor agitation to maintain the electrolyte. Accordingly, VRLA cells, such as those in the Metlakatla BESS, require significantly less space and maintenance than the flooded-cell batteries. The battery housing is a 40 x 70-ft steel butler building that sits on a cement pad at the 12.47-kV substation for MP&L's main diesel generator.

GNB has worked with the ESS program to improve battery manufacturing processes, develop modular designs, and investigate materials that reduce internal electrical resistance and increase capacity of glass-mat, VRLA battery cells. The results

are improved reliability of pressure-relief valves, reduced positive-plate growth, reduced battery-recharge time, and reduced likelihood of short circuits between plates. GNB used the results of these collaborative projects to design the Absolyte IIP cells that are in service in the Metlakatla BESS.

The BESS project took six years from start to finish. Community acceptance and project logistics were sometimes large obstacles. However, once a contract was signed in 1995, "I don't think they had many problems," reports Harry 'Dutch' Achenbach, the third general manager of the utility in six years.

Design specifications were completed in June 1996, installation was complete in February 1997, and operation began in the same month. Startup testing revealed improvement in efficiency in both the diesel and hydro units. A 60% increase in fuel-use efficiency has been recorded.

In a little over a month and a half of use, the BESS has done "more than they said it could," says Achenbach. "The battery held for 45 minutes when a 1-MW load was rejected and tripped one of the hydro units." Even with the Annette Hemlock Mill and a Tsimshian lumber mill, owned by Metlakatla Forest Products, running simultaneously, the only time that the diesel operated in February was to recharge the battery. MP&L saved \$39,100 that month in diesel-fuel costs. If MP&L can continue to defer diesel shipments as it did in March 1997, overall cash-flow for the facility will improve. "With these results," says Achenbach, "you can see that, ultimately, there will be lower prices for consumers."

Tie to mainland still possible

To address possible growth, MP&L has considered taking a proposal before the tribal council to connect Metlakatla to the

Ketchikan-Southeast Intertie on the mainland.

The additional power supply and system stability would come with a demand charge and ratchet if MP&L purchases power from the mainland. However, the connection could be a source of revenue if MP&L provides power at a premium rate during the Ketchikan peak. Moreover, if the BESS realizes the 3-yr payback that the system study predicts, the system will be fully amortized before the interconnection is made. The benefit/cost ratio of operating the BESS would be determined by avoided demand charges, increased revenues, and operation and maintenance costs.

While interconnection to a larger grid would improve system stability, several issues create uncertainty about the future for Metlakatla, MP&L, and the BESS. The cost of interconnection—estimated at \$6-million—could be prohibitive. Also, new federal legislation could make interconnection unnecessary. Early in March, Congress passed a law that prohibits logging in the Tongass National Forest after Dec 31, 1999. Since the mills on Metlakatla get all of their lumber from the Tongass, the disruption of the lumber industry will radically affect the unemployment rate in the community, the community's electricity demands, and potentially, MP&L's use of the BESS.

In the immediate future, MP&L will hold a dedication ceremony for the BESS on Aug 7. The dedication will follow a battery-energy-storage workshop that MP&L, GNB, and the ESS program are cosponsoring in Ketchikan and Metlakatla on Aug 6 and 7. For the three years following the dedication, while logging in the Tongass Forest continues, the BESS will perform the functions for which it was designed, and continue to pay for itself. After that, legislation and local economies will determine what MP&L does with the BESS. ■

For more information, circle 411 on Reader Service Card.

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by

Energetics, Incorporated
7164 Gateway Drive
Columbia, MD 21046
(410) 290-0370

Kimberly Clark

From: Nancy Barnes
Sent: Saturday, February 16, 2008 1:29 PM
To: Kaci Schroeder; Kimberly Clark
Subject: FW: CIP from Metlakatla

From: Solomon D Atkinson [mailto:seal1@aptalaska.net]
Sent: Saturday, February 16, 2008 1:24 PM
To: Nancy Barnes
Subject: CIP from Metlakatla

Hi Nancy,

Thanks for letting me know about entering the CIP today. I made an attempt from my lap top at the office but since I am on networking at the office, it would not work on a saturday. So am trying from home.

Please send to Rep Thomas also, I do not have his e-mail address, see you Wednesday, and will hand carry backup information.

Emergency Battery Energy Storage System (BESS) Replacement Request

We met with the Power & Light Manager and members of his board on Thursday, February 13, 2008 at the Municipal Building. The purpose of the meeting was to inform us of the necessity to run the diesel plant on a daily basis, because the Battery Energy Storage System (BESS) was down and repair parts were on order. However, if the sysrem took too long a period of time to repair, we would probably run out of diesel fuel. We have approximately one months supply of fuel at the present time. However, our Cold Storage Plant was not in operation, but could be very soon, when we will start to process the dive product. And we must make necessary plans to process the "Herring " very soon. That fishery usually happens at the end of March.

The BESS system has been in operation for twelve years and is past due for replacement. The total cost of replacement is \$681,889.50 plus a 10% contingency amount of \$68,188.95 for a total of \$750,078.45. All costs are explained on the attached letter from Mr. George Hunt of EXIDE, located in Aurora, IL.

The Metlakatla Indian Community Council is the governing body for the Metlakatla and oversees the overall structure of the Community, to include the Power & Light Company. The Power & Light Company is sanctioned by the Council, and has it's own manager and Board of Commissioners to oversee day to day operations. The project will be administered by the Poier & Light Company as has beenm done in the past. With oversight by the Mayor & Council , together we will ensure successful service to our members.

We will not have any matching funds for the replacement costs of the project. Since the late seventies, we started to lose customers for our Power & Light Company, such as our two Lumber Mills, that we were forced to close down due to the lack of product (Lumber) for our two mills. With the closure of those two business, we lost over one hundred jobs. Then the U.S. Coast Guard relocated to Sitka that, lost us another good paying customer. The FAA relocated to Ketchikan, and left remote instrumentation here on Annette Island, that do not require a high amount of power to operate.

The unemployment rate is 80% plus at the present time, making it difficult for the Power & Light Company to operate at a break even rate. However, for the future we are working to promote "Tourism" during the summer months. We have been working with the Military Forces since 1996 to construct a road from Metlakatla to Annette Bay, 14.3 miles long. This will allow our members to commute to Ketchikan for jobs , to the Hospital and for secondary schooling at the University of Alaska, Ketchikan Campus.

We are working to promote our "Bald Ridge Aggregate Mine". We do have our permit in hand and are searching for a partner to commence construction of the mine.

We are working to expand our boundaries, that will guarantee a profitable business venture for our commercial fishermen.

As a community, we are not sitting idle hoping for something to happen. The Power & Light Company will furnish four men to assist with the installation of the Battery System, and also any equipment on hand will be used at no cost to the project. We will do whatever we can to ensure a successful project.

The BESS system will be serviced and maintained by the Metlakatla Power & Light Company, as it has been administered in the past. We will not require any State of Alaska assistance once the funds have been approved. We will follow the guidelines as recommended by Mr. George Hunt in the attached letter dated January 18, 2008.

The present BESS system was financed through the Rural Utilities System (RUS) out of Washington D.C. At the present time we are working to settle our debt with RUS, and the State of Alaska has assisted us with this effort over the years. The debt is very close to final settlement at the present time.

We are requesting funding to commence as soon as possible. As the timelines expressed in the attached letter. We would need to initiate a purchase order in March of this year. The factory would construct the batteries in April. The batteries would be shipped to Metlakatla in May. And installation would take place in Metlakatla in May. Then the BESSV system would be tuned up, and put on line in June. This sounds like an ambitious schedule, but, through necessity, we cannot afford to do anything else. We cannot afford to purchase the required fuel to continue to operate our diesel generators.

March ----- Issue Purchase Order to construct Batt.

April----- Construct Batteries

May-----Ship Batts to Metlakatla

JUNE-----Reolacement of Batts in Metlakatla

Final tune up and BESS system put on line at end of June.

The Company is requesting one half payment prior to Batteries leaving factory, and remaining one half on successful completion of installation in Metlakatla.

The contact persons are: Paul Bryant, Manager Metlakatla Power & Light at 1-907-885 4451 or Karl Cook, Mayor, Metlakatla Indian Community at 1-907-886-4441. Mailing address: P.O. Box 8, Metlakatla, Alaska 99926.

The Metlakatla Indian Community was formed in the year 1887, by settlers who travelled from Port Simpson, British Columbia to Annette Island Alaska. The settlers became U.S. citizens and successfully formed the Metlakatla Indian Community. We are citizens of the State of Alaska and take an active part in all State elections. We have all programs as any Municipality in the State of Alaska. SUCH AS:

City Council & Mayor
Police Department
Public Works Department
Social Service Department
Court System
Power & Light Company
Alaska State School System
Fishery Department
Forestry Department
Salmon Hatchery
Health Service through our Annette Island Service Unit
Bureau of Indian Affairs Department
ETC.

The Metlakatla Indian Community is working towards an improved economy. And we will be successful. However, at the present time, we must seek financial assistance from the State of Alaska for an amount of \$750,078.45 as documented on the attached letters and messages.

This request is an "Emergency Request" and should be considered as such. Any questions can be directed to Karl Cook Mayor or Paul Bryant Mgr. MP&L..